



ANALOG MULTIPLIER DC TO WIDE BAND

MODEL

380

DESCRIPTION:

Model 380 provides true analog multiplication in all four quadrants. Using newly developed techniques derived from quarter square principles; miniaturization, accuracy, versatility, and economy, have all been combined in a series of convenient packages arranged for printed circuit mounting. No external circuitry is required to perform the mathematical equation $K (X \times Y) = V_o$.

FEATURES:

Linearity: 0.5% Full Scale

Wide Band Input: DC to 30K Hz

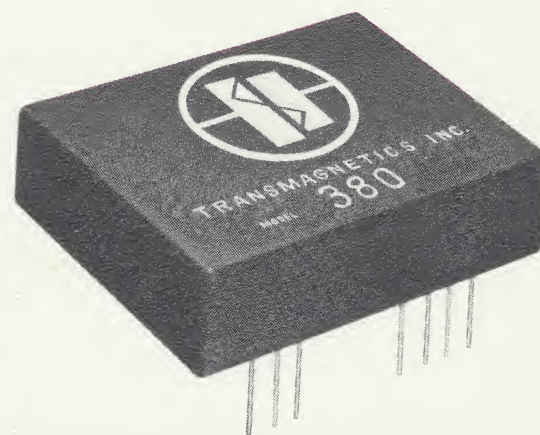
Phase Shift (at 400 Hz): 0.5° max.

Four Quadrant Operation

Full Military Environment

Completely Solid State

Designed to meet MIL E-5400



**OTHER
ANALOG
COMPUTING
MODULES:**

$\sqrt{X^2 + Y^2}$ (HYPOTENUSE SOLVER)

$\sqrt{X^2 - Y^2}$

DIVIDERS

MULTIPLIER/DIVIDERS

SQUARERS

SQUARE ROOTERS

SIN-COS FUNCTION GENERATORS

COMPUTING MODULATORS

SOLID STATE SYNCHROS

SOLID STATE RESOLVERS

PHASE SENSITIVE DEMODULATORS

APPLICATIONS.

PRECISION SERVO
MODULATOR

DC TO AC CONVERSION

VARIABLE GAIN CONTROL

POWER MEASUREMENT

TRIGONOMETRIC
COMPUTATION

SIGNAL SAMPLING

POLAR TO RECTANGULAR
TRANSFORMATION

CORRELATION FUNCTION

FUNCTIONAL COMPUTER

- Application Engineering At No Charge
- See Our Ad in EEM
- Write or Call For Information

**TRANSMAGNETICS INC.**

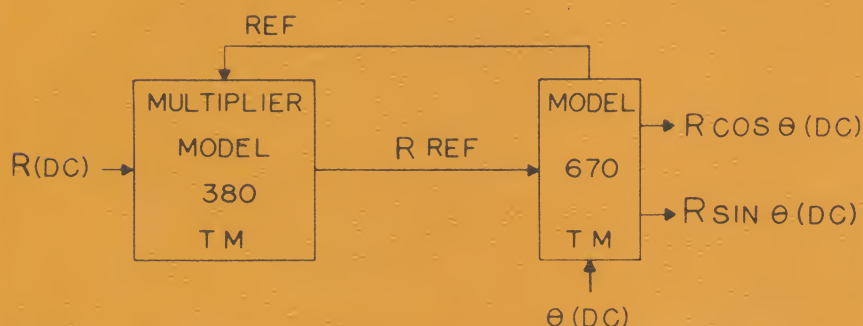
134-25 NORTHERN BLVD. / FLUSHING, N. Y. 11354
212-539-2750 • TWX: 710-582-2472

ANALOG MULTIPLIER DC TO WIDE BAND

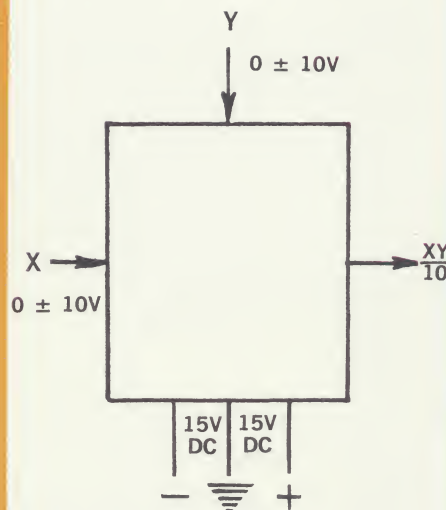
MODEL
380

POLAR TO RECTANGULAR TRANSFORMATION

SOLID STATE



TYPICAL APPLICATION



SPECIFICATIONS:

Input: 0 to $\pm 10V$
Input Impedance: 10K ohms resistive minimum
Maximum Voltage input any terminal: 18V
Output: $\pm 10V$ into 10K ohms minimum
Output Impedance: 50 ohms
Transfer Function: $V_o = \frac{XY}{10}$ nominal
Scale Factor: within $\pm 2\%$ unit to unit
Linearity: 0.5% full scale
Phase Shift: less than 0.5° @ 400Hz
Null: 30MV max, either input zero
Temperature Stability: (± 200 ppm $\pm 0.5MV$) / $^\circ C$

3 DB Band Width: 30K Hz measured with one input DC
Power Required: 3 wire + and -15V DC @ 35MA max.
Power Sensitivity: 100MV / % change of either +15 or -15V line
Operating Temperature: choose suffix C or M
Storage Temperature: $-65^\circ C$ to $+125^\circ C$
Vibration: MIL E-5400 - Curves 1 and 2
Shock: MIL E-5400 - 15g per Para 3.2.21.6
Humidity: MIL-E-5400 - Para 3.2.21.4
Altitude: MIL E-5400 - Table II
Size: Choose suffix P4 or P6

AVAILABLE TEMPERATURE RANGES:

Suffix C: $0^\circ C$ to $70^\circ C$
 Suffix M: $-55^\circ C$ to $+85^\circ C$

AVAILABLE MODELS:
 380CP6, 380CP4, 380MP4

AVAILABLE SIZES:
 Suffix P4: .580" H max x 2" x 2.25"
 Suffix P6: 1.531" H max x 3.18" x 3.43"

ECONOMY SPECIAL: Model 390MP4: same as model 380MP4 except temperature stability is ± 300 ppm ± 1.0 MV/ $^\circ C$

All specifications are subject to change without notice and should be confirmed when ordering.



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